



## Hoverboard Cross 8.5



### USER'S MANUAL

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Carefully read this manual  
and keep it at hand near the product

The Cross 8.5 hoverboard is a two-wheels electrical vehicle with a double foot platform that, by means of a self-balancing system, allows to move in all directions by shifting the body weight. Although it is a high technology product, its misuse can cause serious injuries. To minimise any, it is recommended to carefully read and keep these instructions for any future referring.

## WARNINGS

- Clear all packing components from the product before use.
- This product is not a toy. Use by underage people must be carefully evaluated and authorized by parents or other adults in charge.
- Is not advised for pregnant women and persons with disabilities.
- Do not use the hoverboard under the effect of alcohol, drugs or other substances that could alter the user's reflexes.
- Do not transport objects during the use.
- Be careful of objects around you when you are moving. It is needed to maintain a good view of the space in which you are using the hoverboard for keeping it under control.
- The hoverboard was built to transport only one person. It should not be used by more than one person at the same time.
- Do not use the hoverboard in dark or poorly lit places.
- Do not use the hoverboard if there is ice or snow, and avoid to use it on stones, branches or other types of vegetation or if other objects are present on the ground as this could compromise control of the vehicle.
- It is strictly forbidden to use the hoverboard in combustible environments.
- Do not use at high speeds on irregular terrain or on slopes.
- Do not lean any objects on the footboards except for your feet as these could interfere with the monitoring systems.
- Users must carefully check the laws on road traffic ruling in the country of use.
- Never use the hoverboard at night or in the traffic.
- Never use the hoverboard in reverse for long distances.
- Never be towed by any vehicle.
- Do not effect jumps, evolutions, continuous rotations or sudden brakings at high speed as it is dangerous. The hoverboard components are not suitable for these techniques and could get damaged.



Use of the hoverboard without adequate training and proper learning of techniques can cause serious injuries. Beginners are recommended to learn with an experienced trainer.

- Periodically check the good working of all the components.
- Do not modify the product, which could decrease its safety.
- Do not use the hoverboard if tired and/or under the effect of alcohol, drugs or other substances that could alter the user's reflexes.
- When driving make sure that both feet are correctly placed in the middle of each platform, do not rest feet on the fenders or on the central part (junction): this may damages to the components or loss of vehicle control.
- Do not transport objects during use.
- Be careful of objects around you when you are moving. Maintaining a good view of the space in which you are using your hoverboard is essential for keeping it under control.
- The hoverboard was built to transport only one person. It should not be used by more than one person at the same time.
- It is advisable not to accelerate or stop the vehicle in a sudden or excessively sharp manner as this could result in a loss of control.
- Make sure that the speed with which the hoverboard is being used allows you to stop it any time and in any situation.
- We recommend that you keep a suitable safety distance from other vehicles when you are driving your hoverboard.
- When you are standing on your hoverboard your height will be 14 cm; take this difference into account in

the event of particularly low ceilings and doors.

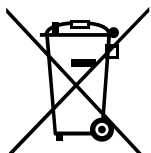
- Do not get off the hoverboard when it is in motion..
- Users are responsible for any consequences arising from misuse of the hoverboard.



- The Dealers and the Seller are not responsible for any damages to objects or persons caused by inappropriate use.
- For use in private spaces. Not suitable for driving on public roads.

**BEFORE USING, MAKE SURE THAT THE BATTERY IS FULLY CHARGED.**

## ELIMINATION AND DISPOSAL



The crossed out waste basket symbol shows that the products sold fall within the scope of the RoHS European Directive on the electrical and electronic waste disposal (RAEE).

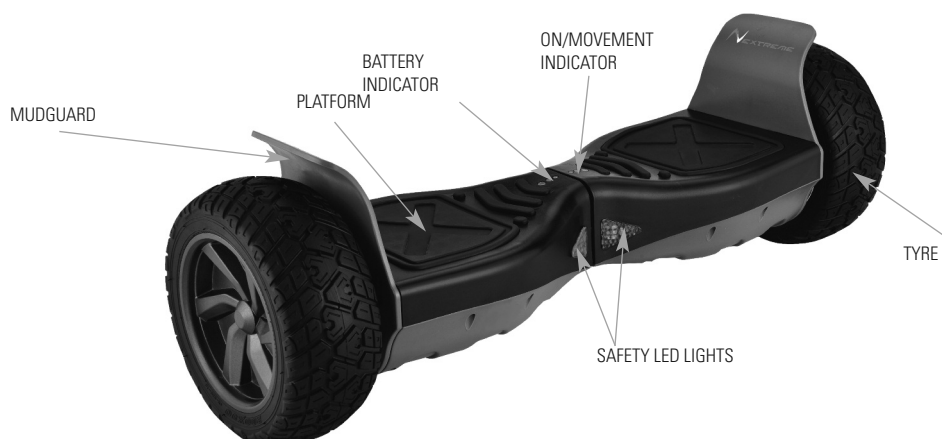


The CE marking shows that the product totally complies with RoHS 2011/65/UE Directive and that its electric and electronic components do not contain illegal levels of health threatening substances.

This product **MUST NOT** be disposed of as domestic waste, but must be disposed of separately (applies to UE states), by delivering it to the collection center provided for the disposal and recycling of such products.

Garlando S.p.A. encourages to respect the environment and the human health even out of the European Union and invites to follow the local rules on recycling and disposal, collecting electrical and electronic devices separately because their components (such as iron, copper, plastics, etc.) can be recycled.

**KEEP THIS MANUAL AND THE PACKING FOR FUTURE REFERENCES AND USE.**



## TECHNICAL DATA

Wheel diameter	diameter 21,6 cm (8.5") off-road design for easy riding and optimum stability on all surfaces
Engine power	350Wx 2
Maximum speed	up to 15 km/h
Maximum climbing capacity	up to 25°
Battery	4.400 mAh Lithium-Ion
Travel distance	up to 20 km
Charging time	about 3 hours
Safety lights	LED
EU approved battery charger	CE, EMC, IEC 61000. - Overload protection and red/green LED charge indicator
Recommended maximum user's weight	100kg
Includes	Bluetooth and integrated speaker
Certifications	CE EN ISO12100, ROHS, LVD, EMC

## SWITCHING ON AND OFF

Place the hoverboard on a flat surface. The ON/OFF button is on the hoverboard lower part. To switch the hoverboard on keep the ON/OFF button pressed for some seconds. The LED lights will light up. To switch the hoverboard off keep the ON/OFF button pressed for some seconds. The LED lights will be switched off.



### • CONTROL SENSORS

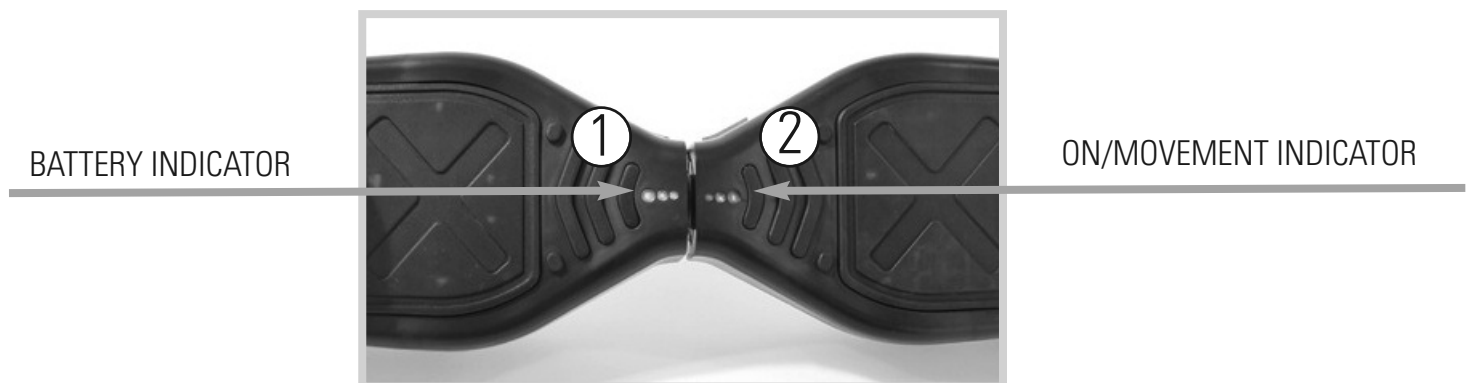
This hoverboard has 4 sensors under the platforms. When you climb onto them the hoverboard balances automatically. To use it you need to ensure that you are touching both the platforms. Be careful not to place your foot on the external part of the platforms, since the hoverboards may not realize you are there.

Do not lean forwards or backwards excessively and do not drive on a slope. Do not lean objects on the pedals, this behaviour could increase the possibility of falls or damage to the vehicle.

Do not put your weight in the central part of the hoverboard; this is where the mechanical steering mechanism is housed. An excessive weight could result in it breaking or not functioning correctly.

### • CONTROL LIGHTS

The control indicators are in the centre of your hoverboard



### 1. THE BATTERY CONTROL LIGHT.

Green: the battery is fully charged.

Yellow: the battery has a charge of about 50%.

Red: battery with less than 20% charge. In this case, stop using the hoverboard and charge the battery.

## **2. ON/MOVEMENT INDICATOR.**

Green: a foot has been placed on the pedal and the balancing system is operating correctly.

Red: a foot has been placed on the pedal, but the balancing system is not operating correctly.

**IF ONE OF THE 2 INDICATORS BECOMES RED, GET OFF YOUR HOVERBOARD IMMEDIATELY, AS THE SYSTEM IS UNSTABLE.**

### **• SAFE USE**

A little practice at the start it is needed, in order to fully master this new means of transport: you have probably already learned how to ride a bike, use a skateboard and ski. These experiences will help you to master your hoverboard in a short space of time.

Read the manual carefully. Before using it for the first time, make sure that the tires are not damaged and that there are no missing mechanical parts. Never use the hoverboard with the aim of damaging people or things. Do not amend the mechanical parts. Since it is a highly technological device, any changing or amendment could result in irregular performance.

While using the hoverboard make sure to take all necessary security measures; in particular we remind, once more, that is recommended to wear a helmet, kneepads, elbow pads, gloves, etc.

### **• RECOMMENDED MAXIMUM USER WEIGHT**

In order to ensure the safety of driver and reduce the overload of the hoverboard following the below recommendations.

- The maximum weight of the driver is 100 kg.
- The minimum weight of the driver is 20 kg.

### **• SPEED**

The maximum possible speed enabling to maintain the hoverboard control is about 15 km/h. When this speed is exceeded the hoverboard will emit an alarm sound. When this happens, it is necessary to reduce the speed to a value within the safety limit. Experts users only should reach the maximum speed.

### **• TRAVEL DISTANCE**

- If the hoverboard is driven on flat terrain, the distance that can be covered increases.
- If the terrain is not flat the distance you will be able to cover will be smaller.
- The driver's weight affects the distance that can be covered.
- Correct charging and maintenance of the battery increase the battery life. The opposite is true in the case incorrect charging and maintenance.
- A driving style with continual accelerations and braking reduces the duration of the battery.

## **BATTERY**

For the safety of the consumer and to extend the duration and improve performance of the battery, please follow the below instructions.

- When the battery indicator is red, we recommend stopping the hoverboard.
- When the power is low, there is not enough energy to drive normally. The hoverboard will automatically stop and will incline the 2 pedals, in order to prevent people from getting on and thus discourage use.



- Do not touch any substance that comes out of the battery. In case contact immediately a doctor.
- Avoid any short circuit or mechanical damages to the battery.
- Do not open the battery and do not put anything inside them.
- If they are over-charged, lithium batteries can explode. Do not throw into a fire.
- The batteries contain dangerous substances. Do not open the battery and do not put anything inside them.
- Do not allow children and animals to touch the battery.
- It is forbidden to release batteries in the environment.
- Do not use the hoverboard in case of smell of electrical overheating and / or excessive heat.
- Do not use the hoverboard if the charger is still plugged in.



Only recharge with the recharger provided. Malfunctionings should be reported to the Help Center.  
- disassembling, maintenance and battery replacement must be effected by an authorized professional. Replacement must be made using original spare parts only. Problems with battery must be reported to your dealer.

#### • BATTERY TEMPERATURE AND FEATURES

- Lithium-ion battery
- Charging time 3 hours
- 36 Volt
- Amps 4,4 Ah
- Use temperature -15C , 50C
- Charging temperature 0C – 40C
- Storage humidity 5% - 95%

#### • TRANSPORTATION OF THE BATTERIES



**LITHIUM BATTERIES ARE CONSIDERED TO BE DANGEROUS MATERIAL. TRANSPORTATION OF LITHIUM BATTERIES IS GOVERNED BY THE LAWS OF EACH INDIVIDUAL STATE.**

#### • INSTRUCTIONS FOR CHARGING THE BATTERY

- Recharging must be effected exclusively by using the supplied recharger.
- Make sure it is fully dry.
- Connect the battery charger to the electrical mains (100V-240V; 50,60Hz), make sure it is switched on and then connect the other end of the charger to the hoverboard.
- The red control light on the battery-charger means that it is charging correctly.
- When the control light goes from red to green, the battery is fully charged, so unplug the battery-charger.
- Charging time is about 3 hours.
- Keep the charging contacts clean and dry.
- If the battery compartment is not dry, do not charge the hoverboard.

### BLUETOOTH FUNCTION

The hoverboard comes with an integrated speaker and a Bluetooth v4.2 device to transmit the music loaded on a smartphone.

Compatible with smartphones equipped with the same technology BT v4.2.

The following instructions may change slightly depending on the smartphone model used.

Turn on your hoverboard.

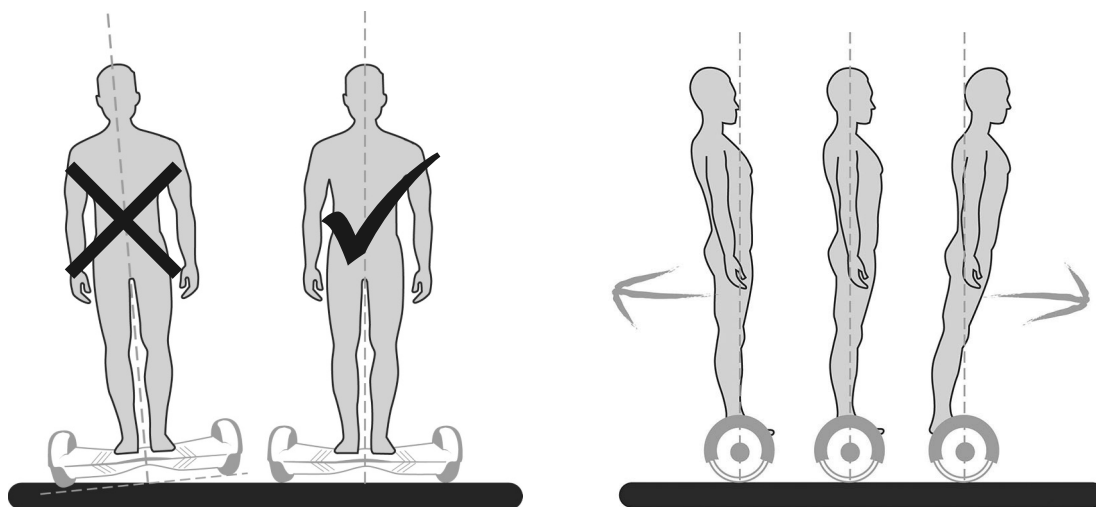
The hoverboard will emit a sound signal telling you that Bluetooth is enabled.

- Go to your mobile device settings and choose Bluetooth.
- Start the pairing process on your mobile device. Your mobile device may automatically recognize your hoverboard as “Bluetooth”.
- Select the new Bluetooth device from your mobile device and pair.
- There is no password required for pairing with the hoverboard.
- The hoverboard will emit a sound signal telling you the devices are paired.
- Now you can play your favourite music from your mobile device with the hoverboard internal Bluetooth speaker.
- When you disconnect your mobile device, the hoverboard will emit another sound signal to alert you.

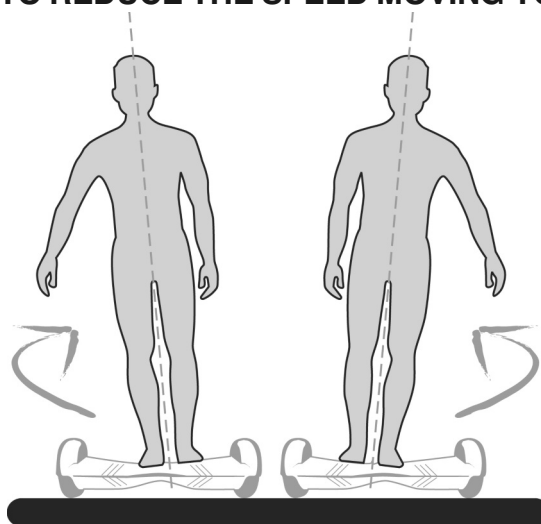
### OPERATION

The hoverboard moves thanks to the dynamic balance concept. It uses an internal system of sensors and gyroscopes that allows it to move on the basis of the variation of the centre of gravity, instructing the wheels in real time to turn forwards or backwards to remain in a position of balance. By leaning forwards, you will move forwards and the angle of inclination determines the speed at which you move. To turn it is sufficient to gently transfer your weight to one of your feet. The hoverboard has a system of inertial stabiliza-

tion, which helps you to maintain a vertical position; if it notices an excessive inclination of your body towards either side or lack of contact of the platforms by either of your feet it will stop automatically.



**BEFORE TURNING, YOU HAVE TO REDUCE THE SPEED MOVING YOUR WEIGHT SLIGHTLY BACKWARDS.**



## USE

Press the power button to start the hoverboard.

As you get on, put one foot on the side of the platform; the hoverboard will notice the weight and will activate the balancing system.

Slowly lift the other foot and then put it back on the ground.

Practice lifting your foot and bringing back down to the ground for a few times until you are able to lift it without making the hoverboard sway from side to side.

Try to keep your head held high as much as possible and look ahead. When you are easily able to lift your foot from the ground without hoverboard moving, slowly place your other foot on the pedal.

**TO GET ON SAFELY WE REMIND THE USER THAT IS PROHIBITED TO JUMP ONTO THE HOVERBOARD.**

- Get control of the frontal movements of the hoverboard and remember that movements of the body axis must not be too broad or made through sharp and sudden movements.
- Always maintain control of lateral movements (to the right and to the left).
- Before getting off the hoverboard, make sure it is completely stationary.
- Alight, by removing one foot at a time from the platform.

**WARNING!**

**IF THE VEHICLE DOES NOT ACTIVATE THE AUTO BALANCING, WHEN YOU GET ONTO THE PLATFORM THE LED ALARM LIGHT WILL SWITCH ON. DO NOT USE THE HOVERBOARD, WAIT FOR A FEW MINUTES AND TRY AGAIN. IF YOU ARE ON A SLOPE, MOVE TO FLAT TERRAIN.**



GET OFF ALWAYS FROM THE REAR OF THE VEHICLE IN ORDER TO AVOID RISKS OF LOSING CONTROL OF THE VEHICLE AND FALLING.

## PROTECTION FUNCTIONS

The following anomalies could cause the protection functions of the hoverboard activation.

During use, if the system notes the presence of errors or the loss of balance, it will warn the user of these anomalies, through control lights and intermittent alarm sounds.

- Driving on slopes with a gradient of more than 10 percent.
- Too low voltage of the battery.
- Excessively high speed.
- Exhausted battery.
- Oscillation forwards and backwards for more than 30 seconds.

If the system goes into protection mode, the alarm sensors switch on and the control lights start to sound.

### THE HOVERBOARD WILL TURN OFF AUTOMATICALLY IN THE FOLLOWING CIRCUMSTANCES:

- The system detects a too high inclination, in any direction.
- In case of locking wheels for at least 2 seconds.
- In the event of activities which involve a significant consumption of energy (lengthy climbs, particularly steep descents).
- If during use, the platforms are inverted or tilted beyond a safe limit.

### ALWAYS EFFECT DESCENTS BACKWARDS TO AVOID FALLING OR LOSING CONTROL OF THE VEHICLE

Driving the hoverboard in the abovementioned circumstances can damage the vehicle and injure the user.

In the event of the vehicle automatically switching off, the system will block the vehicle. Unblocking is made manually by pressing the ON/OFF button on the back.

## CALIBRATING FUNCTIONS

In the event of incorrect functioning it could be necessary to effect the calibrating process.

Make sure that the hoverboard is perfectly flat. Keep the ON/OFF button pressed until the LED lights will flash: this means that the calibration has been effected successfully.

### • MAINTENANCE

Make sure that the power cable is disconnected and that the hoverboard is off before proceeding.

Clean the external shell of the hoverboard with a soft and dry cloth.

The hoverboard is spray resistant, but cannot be immersed in water.

Do not allow water or other liquid to get inside the hoverboard, as this could cause permanent damage to the electronic circuitry.

Clean the hoverboard after every use and do not store in a dusty environment.

### • CONSERVATION

Before storing the hoverboard make sure that the battery is completely charged.

Charge the battery completely as this will prevent it from becoming completely exhausted over time.

Per long periods of time remove the battery and run it down /recharge it every three months.

Cover the hoverboard with a cloth. Dust and sand could get into the engine and damage it.

Store indoors, at a dry and suitable temperature. It is recommended to store the hoverboard in its original packing or to cover it with a cloth. Dust could damage its internal components.



**ANY ATTEMPT TO REPAIR OR AMEND THE HOVERBOARD AND ALL TAMPERING WILL RESULT IN THE AUTOMATIC CANCELLATION OF THE WARRANTY.**

*The images and schemes in this manual are only included for illustrative purposes.*

*Garlando s.p.a. reserves the right to modify data, design, technologies and components without prior notice.*







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